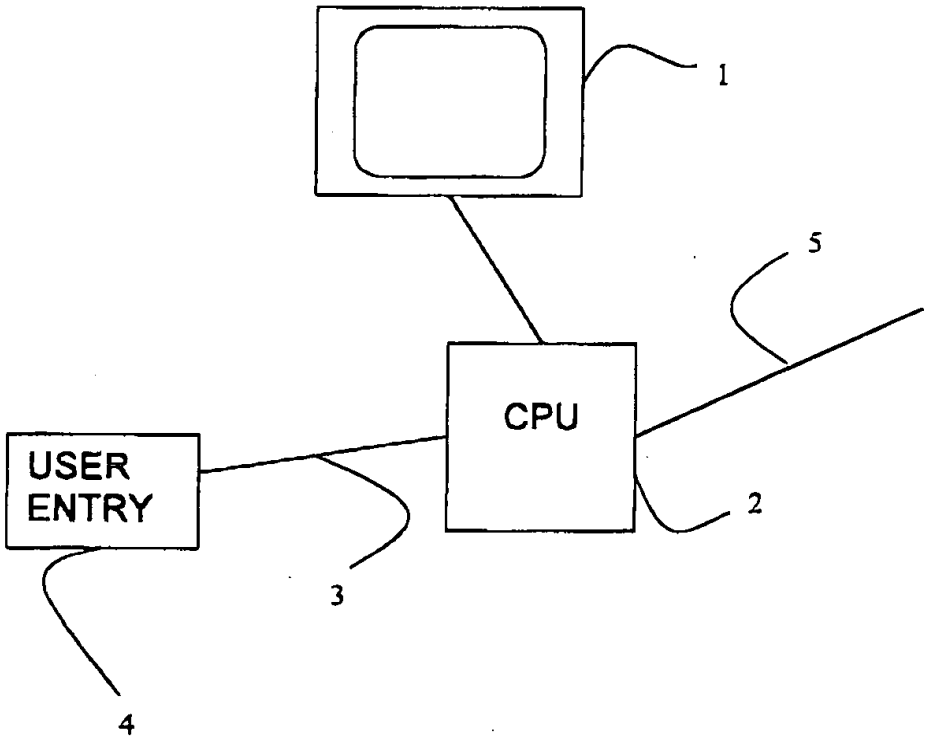

FIG. 0

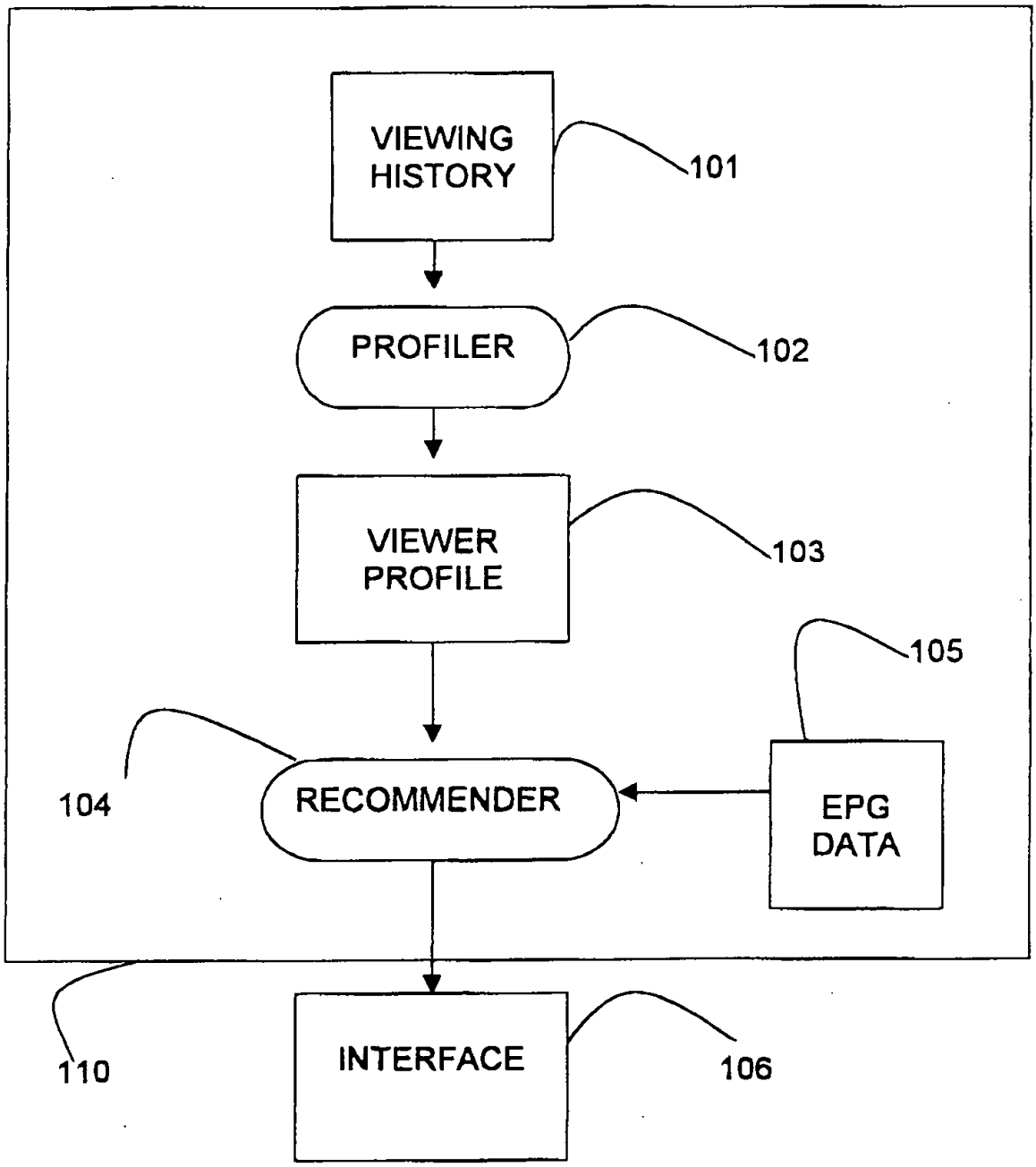
VIEWING HISTORY
101
PROFILER
102
VIEWER PROFILE
103
105
104
RECOMMENDER
EPG DATA
110
INTERFACE
106

FIG. 1

Let S be all shows not watched in the 7 days prior to and including the current day
Let N be 1.

For each TV show watched
    Enter the watched show in the viewing history as a positive example
    Select a subset S of shows not watched
    Select at random N shows from set S and enter them in the viewing history as negative examples. If an explicit viewer profile is available, then the random selection can be biased away from shows "liked" and towards shows "not liked."

Figure 2. Pseudo code for the Viewing history generator

Table 1. The key fields

Field	Description
$date	yyyymmdd
$air_time	hhmm (e.g. some value in the range 0000-2359)
$station_sign	4 characters (e.g. WABC)
$title	120 characters (e.g. "Antiques Roadshow")
$desc	120 characters (e.g. "Skully visits alien spacecraft")
$genre	20 characters (e.g. "Science Fiction")
$actors	120 characters (e.g. "John Doe, Jane Doe")
$directors	120 characters (e.g. "John Hitchcock")
$hosts	120 characters (e.g. "John Host")
$producers	120 characters (e.g. "Jane Rich, John Moneybags")
$writers	120 characters (e.g. "John Poet")

FIG. 3

totalIprograms	55	55
daytimelMon2100	5	0
daytimelMon2200	6	1
daytimelTue2200	4	1
daytimelWed2000	4	0
daytimelWed2200	6	0
stationlWABC	10	1
stationlWNBC	30	0
stationlWNYW	13	0
titlel20/20	5	0
titlelDateline NBC	11	0
titlelMLB Playoffs	10	0
titlelPaid Programming	0	5
genrelAnimated	0	4
genrelBaseball	13	1
genrelComedy	4	8
genrelFootball	4	0
genrelMagazine	18	0
genrelNews	22	4
genrelReality	4	1
genrelSituation	3	5
genrelSports Event	15	2
genrelTalk	18	3
desclAlly	6	0
desclIf	6	0
desclMcBeal	4	0
desclalternate	5	0
desclgame	4	0
desclineup	5	0

desclIocal	4	0
desclnecessary	6	0
desclprimetime	5	0
desclprogramming	4	0
TV ratinglTV14	6	3
TV ratinglTVG	0	4
sex ratinglN	51	52
language ratinglN	51	50
advisorylAdult Situations	0	8
advisorylLanguage	0	5
MPAA ratinglR	0	4
star ratingl**+	0	5
program languagelEnglish	51	52
country of originlUnited States	0	7
episode titlelGame	7	0
episode titlelLeague	4	0
episode titlelNew	5	0
episode titlelSeries	9	0

FIG. 4

FIG. 5A

$$T = k(C+) + k(C-)$$

$$P(C+) = k(C+)/T$$

$$P(C-) = k(C-)/T$$

FIG. 5B

$$P(fi|C+) = k(fi|C+)/k(C+)$$

$$P(fi|C-) = k(fi|C-)/k(C-)$$

FIG. 5C

$$P(C+|\mathbf{x}) = P(\mathbf{x}|C+)P(C+)/P(\mathbf{x})$$

$$P(C-|\mathbf{x}) = P(\mathbf{x}|C-)P(C-)/P(\mathbf{x})$$

Where

$$P(\mathbf{x}) = P(\mathbf{x}|C+)P(C+) + P(\mathbf{x}|C-)P(C-)$$

$$P(x \mid C+) = \prod_{i=1}^{n} P(fi \mid C+)^{xi} \quad (1 - P(fi \mid c+))^{1-xi}$$

n= number of features in profile
fi= the i^{th} feature in the profile
$x = \{0,1\}^n$ is a bit string of length n, where the i^{th} bit indicates the presence (1) or absence (0) of feature fi in the program